News from Ed Markey

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MARKEY: NRC HAS BEEN EVASIVE ABOUT AIRCRAFT THREATS TO NUCLEAR POWER PLANTS

WASHINGTON, D.C. --- Representative Edward J. Markey (-D-MA) today questioned whether the Nuclear Regulatory Commission (NRC) has been fully forthcoming regarding its knowledge of the risks posed to civilian nuclear plants in the event of an aircraft impact.

"Last week, the NRC told me that they had done no studies of what would happen if a large civilian airliner crashed into a nuclear power plant," said Rep. Markey. "But this week, the press has reported that the NRC actually commissioned a study into this very topic nearly 20 years ago, and that study found that our nuclear plants were extremely vulnerable if hit by a large aircraft."

Rep. Markey continued, "The question Congress must ask now is, what does the NRC know about this safety risk, how long have they known about it, and why haven't they done more to protect us against it."

Rep. Markey, a senior Democratic Member of the House Energy and Commerce Committee, which has jurisdiction over the NRC and the nuclear power industry, has been pressing the NRC for a decade to upgrade the protections against terrorist attacks against the 103 operating commercial nuclear reactors around the nation, as well as other sensitive nuclear facilities. Earlier this month, Rep. Markey succeeded in attaching amendments to a pending anti-terrorism measure approved by the Committee, H.R. 3016. Rep. Markey's amendment to the bill would direct the NRC to issue new rules to strengthen defenses at nuclear plants and enhance security of nuclear materials transportation systems. During this same markup, Rep. Markey also offered and withdrew an amendment to authorize the President to deploy National Guard units or other military forces to defend the plants, in order to work out any possible Committee jurisdictional issues relating to the amendment. Since it is unclear whether the House Republican leadership will take up H.R. 3106, Rep. Markey has also filed his amendments to the Price-Anderson reauthorization legislation, which is currently pending before the Energy and Commerce Committee.

In an October 16, 2001 letter to Rep. Markey, responding to a series of questions raised in Markey's September 20, 2001 letter on nuclear security, NRC Chairman Richard A. Meserve stated that in the past, "the NRC did not specifically consider attacks by aircraft such as Boeing 757s or 767s, and nuclear power plants were not specifically designed to withstand such crashes." Chairman Meserve further indicated that, "The NRC has not yet performed detailed engineering analyses of a large airliner crash; and thus cannot, at this point, provide an assessment of the likely consequences of such an attack."

However, a 1982 report prepared by the Argonne National Laboratory for the NRC's Office of Nuclear Regulatory Research, entitled "Evaluation of Aircraft Crash Hazards Analyses for Nuclear Power Plants" appears to contradict the NRC's assertion that no detailed engineering analyses of the impact of large aircraft crashes on nuclear power plants had been performed to date. The Argonne report, which reportedly was available in the NRC's public reading room until very recently, critically evaluates the state of knowledge regarding aircraft crash hazards to nuclear power plants, including modeling of aircraft crash scenarios and threat environments, and estimation of the effects on and response of vital

plant systems. The Argonne report further notes the existence of numerous other studies into this matter, indicated that "a review of past nuclear power plant siting experience indicated that hazards arising from aircraft crashes were analyzed in at least 12 cases in the U.S.A."

According to the Argonne Study, if an aircraft were to crash into "a double enveloped containment structure it may be possible to deposit a significant adequate quality of fuel between the two envelopes. The subsequent vaporization and ignition of the resulting vapor-air mixture could lead to a rather violent explosion environment and impose upon the primary containment relatively severe loads." The report goes to state "these loads mare different in character than those imposed by the impact process, but may be just as severe."

The Argonne Study also reports that "if only one percent of the fuel, say 500 lb for a FB-111 fighter plane, is involved in such an event, the blast environment will be equivalent to the detonation of approximately 1000 lb of TNT."

Overall, the 1982 Argonne Study warns that, "Based on the review of past licensing experience, it appears that fire and explosion hazards have been treated with much less care than the direct aircraft impact and the resulting structural response. Therefore, the claim that these fire/explosion effects do not represent a threat to nuclear power plant facilities has not been clearly demonstrated."

Nearly 20 years later, NRC Chairman Meserve told Rep. Markey, "The NRC staff is evaluating strategies to assess the effects of a deliberate aircraft impact and the resulting fire and explosion on the reactor containment building and other reactor support facilities. Variables considered in the analyses will include aircraft size and speed, as well as the amount of fuel."

Rep. Markey concluded, "Since the NRC has either known, or should have known about the catastrophic consequences of an aircraft attack on a nuclear plant for at least 20 years, I think the American public deserves to be told what, if anything, the NRC did in response to the Argonne Study, and why, nearly 20 years after that study, our plants still are not better protected against this type of threat."

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